

ABSTRACT

REMOTELY INTERROGABLE TEMPERATURE OR
TEMPERATURE/PRESSURE SENSOR

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The invention relates to a remotely interrogable SAW (surface acoustic wave) temperature sensor comprising, on the surface of a quartz substrate cut along the direction Y' making an angle θ with the direction Y,

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- at least two resonators ($T_{1,SAW}$, $T_{2,SAW}$) comprising transducers consisting of interdigitated electrodes connected to control buses of design such that they have different characteristic operating frequencies; and

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- a first resonator having a first surface acoustic wave propagation direction, parallel to one of the axes of the substrate, and a second resonator having a surface acoustic wave propagation direction making a nonzero angle (β) with the propagation direction of the first resonator,

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characterized in that the control buses of the second transducer are inclined at a nonzero angle (γ) to the normal to the interdigitated electrodes of said second transducer so as to compensate for the power flow divergence of the acoustic waves relative to the direction of propagation of the surface acoustic waves along said second transducer.

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FIGURE 6